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2   1. A mechanical apparatus operable for rapid replacement of one or more RF  
3   fixture customizations, comprising:

4

5   an RF enclosure;

6

7   a drawer base plate, coupled to the RF enclosure;

8

9   a nest stationary base plate, coupled to the drawer base plate, said nest  
10   stationary base plate further comprising:

11

12       one or more o-rings, coupled to one or more holes located in  
13       stationary base plate and coupled to one or more corresponding  
14       holes in the drawer base plate;

15

16       one or more fasteners, coupled to the nest stationary base plate in  
17       one or more locations and coupled to the drawer base plate in the  
18       one or more locations;

19

1        one or more electrical connectors, coupled to the nest stationary base  
2        plate, said one or more electrical connectors operable to carry electrical  
3        signals;

4

5        one or more pneumatic actuators, coupled to the nest stationary base  
6        plate, said one or more pneumatic actuators operable by pressurized gas  
7        provided to one or more corresponding nests through the one or more o-  
8        rings;

9

10      a stationary base assembly, coupled to the nest stationary base plate;

11

12      one or more lower nest assemblies, coupled to the stationary base  
13      assembly, said one or more lower nest assemblies operable to support the  
14      one or more corresponding nests; and

15

16      one or more upper nest assemblies, coupled to the one or more  
17      corresponding lower nest assemblies, said one or more upper nest  
18      assemblies operable to support the one or more corresponding nests.

19

20    2. The mechanical apparatus of claim 1, wherein the drawer base plate  
21      comprises one or more guide plates, said guide plates operable to enable the

1       nest stationary base plate to be oriented with respect to the drawer base  
2       plate.

3

4       3. The mechanical apparatus of claim 1, wherein the one or more o-rings are  
5       placed on two straight lines along the long axis of the drawer base plate.

6

7       4. The mechanical apparatus of claim 1, wherein the one or more pneumatic  
8       fittings are place below the one or more o-ring locations.

9

10      5. The mechanical apparatus of claim 1, wherein the fastener tightens the  
11       drawer plate to the stationary base plate.

12

13      6. The mechanical apparatus of claim 1, wherein the one or more lower nest  
14       assembly and the upper nest assembly contain one or more alignment  
15       features suitable for aligning a lower nest assembly with the corresponding  
16       upper nest assembly.

17

18      7. The mechanical apparatus of claim 1, wherein the stationary base assembly  
19       further comprises:

20

21       a base probe plate;

1

2       one or more guide shafts, coupled to the base probe plate;

3

4       one or more locating cones for upper nest assembly alignment, coupled to  
5       the guide shaft;

6

7       one or more down stops, coupled to the one or more guide shafts and  
8       coupled to the base probe plate from above;

9

10      a left standoff, coupled to the base probe plate from below;

11

12      a right standoff, coupled to the base probe plate from above;

13

14      one or more pneumatic fittings, coupled to one of the left standoff and the  
15      right standoff; and

16

17      a PCA mount, coupled to the right standoff and coupled to the left  
18      standoff.

19

20    8. The mechanical apparatus of claim 1, wherein the lower nest assembly  
21    further comprises:

1

2        a left bearing mount, coupled to the upper nest assembly;

3

4        a right bearing mount, coupled to the upper nest assembly;

5

6        DUT support plate, coupled to the stationary base assembly, coupled to  
7        the right bearing mount, and coupled to the left bearing mount; and

8

9        a pneumatic air supply assembly, coupled to the DUT support plate, said  
10      pneumatic air supply assembly operable to supply pressurized air to a  
11      nest.

12

13     9. The mechanical apparatus of claim 1, wherein the upper nest assembly  
14      further comprises:

15

16      an upper nest plate, coupled to the lower nest assembly;

17

18      a cross bar, coupled to the upper nest plate; and

19

20      one or more screws, coupled to the cross bar, said one or more screws  
21      operable to couple the upper nest assembly to the lower nest assembly.

1

2 10. A mechanical apparatus operable for rapid replacement of one or more RF  
3 fixture customizations, further comprising:

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5 an RF enclosure;

6

7 a drawer base plate, coupled to the RF enclosure;

8

9 a nest stationary base plate, coupled to the drawer base plate;

10

11 a stationary base assembly, coupled to the nest stationary base plate;

12

13 one or more lower nest assemblies, coupled to the stationary base  
14 assembly, said one or more lower nest assemblies operable to provide  
15 support from below to the one or more corresponding nests; and

16

17 one or more upper nest assemblies, coupled to the one or more  
18 corresponding lower nest assemblies, said one or more upper nest  
19 assemblies operable to provide support from above to the one or more  
20 corresponding nests.

21

1    11. The mechanical apparatus of claim 10, wherein the drawer base plate  
2       comprises one or more guide plates, said guide plates operable to enable the  
3       nest stationary base plate to be oriented with respect to the drawer base  
4       plate.

5

6    12. The mechanical apparatus of claim 10, wherein the one or more lower nest  
7       assembly and the upper nest assembly contain one or more alignment  
8       features suitable for aligning a lower nest assembly with the corresponding  
9       upper nest assembly.

10

11    13. The mechanical apparatus of claim 10, wherein the stationary base  
12       assembly further comprises:

13

14       a base probe plate;

15

16       one or more guide shafts, coupled to the base probe plate;

17

18       one or more locating cones for upper nest assembly alignment, coupled to  
19       the guide shaft;

20

1        one or more down stops, coupled to the one or more guide shafts and  
2        coupled to the base probe plate from above;

3

4        a left standoff, coupled to the base probe plate from below;

5

6        a right standoff, coupled to the base probe plate from above;

7

8        one or more pneumatic fittings, coupled to one of the left standoff and the  
9        right standoff; and

10

11        a PCA mount, coupled to the right standoff and coupled to the left  
12        standoff.

13

14        14. The mechanical apparatus of claim 10, wherein the lower nest assembly  
15        further comprises:

16

17        a left bearing mount, coupled to the upper nest assembly;

18

19        a right bearing mount, coupled to the upper nest assembly;

20

1           DUT support plate, coupled to the stationary base assembly, coupled to  
2           the right bearing mount, and coupled to the left bearing mount; and  
3  
4           a pneumatic air supply assembly, coupled to the DUT support plate, said  
5           pneumatic air supply assembly operable to supply pressurized air to a  
6           nest.  
7

8       15. The mechanical apparatus of claim 10, wherein the upper nest assembly  
9           further comprises:

10  
11           an upper nest plate, coupled to the lower nest assembly;  
12  
13           a cross bar, coupled to the upper nest plate; and  
14  
15           one or more screws, coupled to the cross bar, said one or more screws  
16           operable to couple the upper nest assembly to the lower nest assembly.  
17

18       16. A mechanical apparatus operable for rapid replacement of one or more RF  
19           fixture customizations, further comprising:

20  
21           an RF enclosure;

1

2        a drawer base plate, coupled to the RF enclosure;

3

4        a nest stationary base plate, coupled to the drawer base plate, said nest  
5        stationary base plate further comprising:

6

7            one or more o-rings, coupled to one or more holes located in  
8            stationary base plate and coupled to one or more corresponding  
9            holes in the drawer base plate; and

10

11            one or more fasteners, coupled to the nest stationary base plate in  
12            one or more locations and coupled to the drawer base plate in the  
13            one or more locations.

14

15    17. The mechanical apparatus of claim 16, wherein the drawer base plate  
16        comprises one or more guide plates, said guide plates operable to enable the  
17        nest stationary base plate to be oriented with respect to the drawer base  
18        plate.

19

20    18. The mechanical apparatus of claim 16, wherein the one or more o-rings are  
21        placed on two straight lines along the long axis of the drawer base plate.

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2    19. The mechanical apparatus of claim 16, wherein the one or more pneumatic  
3        fittings are place below the one or more o-ring locations.

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5    20. The mechanical apparatus of claim 16, wherein the fastener tightens the  
6        drawer plate to the stationary base plate.

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